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EDITORIAL NOTES

DISTRICT DISCUSSIONS

EXCELLENT response has been made to the plea that the District Associations should get together and discuss in real earnest what they hoped for regarding immediate plans and plans designed to meet post-war conditions which at the moment cannot properly be envisaged. It is plain that changes in the structure of the Industry will be made. The situation has been explained with great clarity and in unmistakable terms by the Director-General of Gas Supply, and we are glad to know that our interpretation of his views and aims has presented an accurate picture. Already three Associations have had the benefit of informal Addresses from Dr. Smith. His Addresses to the Southern and the Midland Associations were reported in the "JOURNAL" of March 25 and April 8, and at the meeting of the North British Association he spoke in similar and no less vigorous vein. All these meetings, and also the meeting of the Manchester Association (we publish reports of both the North British and the Manchester in our columns to-day) have been very much alive and—it has seemed to us—expressive of a firm resolve to meet present difficulties and future problems with broader outlook and greater unity of purpose. Above all, they have appeared to us to be indicative of the development of an essential factor to progress—willingness to cast aside prejudices and sink petty differences. As we have said, rationalization of the Industry is inevitable. How much better is it that this reconstruction should evolve in concert from within rather than be thrust upon the Industry from without. And evolution in concert does not to our mind imply suppression of constructive criticism. In fact, constructive criticism is urgently needed, and Dr. Smith has expressly invited it.

While, as we have remarked previously, our immediate task is to expend every ounce of energy in furtherance of the war effort, this primary and basic aim need not obliterate consideration of plans for reconstruction after the war is over. The Chancellor of the Exchequer emphasized this very point in his budget speech last week when he said that the President of the Board of Trade and himself, in consultation with Sir William Jowitt, were prepared to begin discussions with and to receive suggestions from the associations and bodies concerned in relation to their post-war problems. The Government's idea is to make advance preparations for difficulties ahead, and it is apparent that industrial associations and bodies should have their plans ready. The Gas Industry should have its own plans and suggestions neatly formulated, and it was natural that the Presidential Addresses of Mr. R. D. Keillor to the North British and of Mr. J. E. Lister Cooper to the Manchester should be devoted at any rate partly to consideration of the place of the Industry in future fuel supply, for, as Mr. Keillor aptly summed up, whether future Governmental direction of gas affairs will take the form of gentle persuasion or positive regulation will depend on the ability (or lack of ability) of the national and district organizations to find satisfactory answers to present-day and post-war problems. Concerning current affairs in Scotland Mr. Keillor deplored the lack of an Industrial Gas Centre—and it has certainly been proved further South that the Industrial Centres form an effective liaison between the Industry and Government departments on questions dealing with industrial gas usage—and the lack of unity in the measure of support accorded in Scotland to the national gas and coke organizations, which is nothing like 100%. In the formation of an Industrial Centre north of the Border he asked for a lead. It seems to us that the question could without undue difficulty find an answer through co-operation, and this spirit of co-operation surely is growing in Scotland. At any rate we regard the Mutual Aid Scheme, a wartime measure which could be developed into a permanent feature, as a ray of hope pointing in the right direction.

A similar appeal for 100% support of the Industrial Gas Centres was also made by Mr. Cooper, while both Presidents urged the abolition of raw coal from future domestic heating schemes. Regarding the former, post-war development will probably bring about re-orientation of industry, and no undertaking, however non-industrial the area of that undertaking may appear to be at the moment, should regard itself as outside the scope of industrial gas development. Much present thought and discussion is in fact being devoted to this very problem, to the methods by which the needs of industry and business, and of their workers, can be reconciled with the needs of agricultural and rural life, and several of the industries suggested as being especially suited for location in agricultural districts normally use gas very extensively in their processes. And, as we have mentioned previously, coupled with the location of industry are the migration of population and the establishment of new communities. All this must have its bearing on the future of the Industry and calls for 100% co-operation now. Concerning the burning of raw coal in the domestic grate, this must cease in the interests of a pure atmosphere and public health, and the Gas Industry can provide fuel systems which are smokeless and more efficient and convenient than coal—and it can provide these systems economically. In future national schemes the best use of fuel should be a foremost consideration, if for one reason only—a reason which, we think, is not widely appreciated—that we possess less than 3% of the world's coal reserves. In disregard of this fact, coal has always been used extravagantly in Great Britain. As far as the Gas Industry is concerned the field for domestic heating is wide enough. Of the total gaseous output of the Industry 60–65% is represented by only 18½% of the domestic heat usefully employed; 52½% of the heat usefully employed is still being provided by the burning of raw coal. These figures should supply incentive to bold planning.

RECONSTRUCTION

AT the beginning of this month we said we had no grounds for assuming that the policy of the Government in regard to planning had changed or that Ministerial changes made in March, when Lord Portal succeeded Lord Reith, portended a new attitude. We referred to the matter in view of the impression which seemed to be gaining ground that the Government were modifying their policy, and any modification in attitude would naturally interest and affect the Gas Industry in the planning arena, which it entered somewhat in retard of the starting-pistol, but with good grace and with good intentions. We think that our views on the question were not misplaced, but we shall soon have confirmation or otherwise and, in fact, the statement made by Sir Kingsley Wood in his budget speech to which we have already referred lends a distinct measure of confirmation in a general way. Last week the Bill for the establishment of a Ministry of Works and Planning was presented to Parliament, and its passage through Parliament will provide an opportunity for Lord Portal to define clearly the Government's intentions, and to satisfy those who feel uneasiness at the silence which has fallen since the announcements made by Lord Reith and Mr. Greenwood last February. Also, a motion is to be submitted in the House of Lords which will permit

a general debate on this subject of Government plans for post-war reconstruction. The question is being asked—and we hope that an answer will soon be forthcoming—whether the Government is as determined as before to find practical solutions for the immediate problems of a transition from war to peace, and to give definition to a policy for the years immediately following the war. On the face of it, the Ministerial changes do not preclude the execution of these purposes, the import of which as it appeared to affect the Gas Industry we discussed in the "JOURNAL" of Feb. 18, but there is obviously a call for authoritative pronouncement.

SCIENCE AND GOVERNMENT

WE doubt whether the work or even the existence of the Parliamentary and Scientific Committee is at all widely known, and we think that a few words about its functions, which are assuming more importance in the scheme of things, may be pertinent. It is generally admitted that our legislature is weak on the scientific side, and few, we suggest, would say that our Governments are particularly strong in this regard. Because of this the establishment of the Parliamentary and Scientific Committee, consisting of a small number of members from both Houses, was to be welcomed. The Committee, through a combined membership, has linked itself with the organizations representing the great industries, including the Gas Industry, which are based on applied science. The work of the Committee has been threefold. First, it considers specific points referred to it and presents to the proper authorities constructive proposals ; secondly, it has a function of criticism; thirdly, it is concerned with the interests of scientific workers of every grade, now and in the period of post-war reconstruction.

The broad question of the relations between science and politics was discussed by Viscount Samuel at a luncheon of the Committee. There are some, as Viscount Samuel remarked, who hold that the present "age of science" is bad—that if the horrors of present warfare are the gifts of science, then science stands condemned and the scientist should be relegated to a shamefaced obscurity. These evils are, however, not necessary features of a science-minded society. On the contrary, they are an offence against it; the cure may be found not in less science, but in more. Cast away science and half civilization would be lost. Particularizing, is the Gas Industry based on a wrong premise because incidentally it can by treating coal produce the raw materials for explosives? Or is it desirable to return to an age when modern preventive and curative medicine and modern surgery were unknown? The perversion of discoveries to purposes of aggressive war is not the responsibility of the scientist or technician. So long as culture is not narrowed, the more the nation as a whole becomes science-minded the more likely it is to prosper. Scientists and technicians, among them scientists and technicians in the Gas Industry, have their part to play in the preparation for post-war conditions. Moreover —we quote from a leading article in *The Times*—"science can be and has been brought into politics without politics creeping into science."

We do not deplore the fact that the influence of science is now greater than it has ever been, and that the present Government and Parliament attach a value to the help and guidance of scientists that no previous Parliaments have ever done. There is hardly a phase of the national life now with which scientists are not associated; and the supply of able young men who are now rendering by their scientific work great service to the State includes many who formerly were helping to improve the efficiency of a peacetime and peace-loving Gas Industry. It is to be hoped that scientific men, administrators, and legislators will work more and more in harmony side by side.

SETBACK IN NEW ZEALAND

WE think we are right in saying that war circumstances have brought home as never before to the governmental authorities of this country the immense importance of the Gas Industry. This being so, and at a time looming so large with major difficulties of all types, it seems strange and out of keeping that we should have to record the setback which the Industry in New Zealand has received at the hands of the Government of that country, which has decided against the installation of gas in State houses. Reference to the setting-up of this stone wall was made by Mr. J. Hungerford in his Presidential Address to the New Zealand Gas Institute, an abstract of which we publish on a later page. It would appear that since the State embarked on its Housing Scheme private enterprise in house-building has practically ceased to function, and the new home-maker has to accept a boycott on gas—and this at a time when the Government is asking for the vital wartime supplies of benzole and toluole. Wellington figures quoted by Mr. Hungerford show that taxation costs are 12.3d. per 1,000 cu.ft. of gas sold, while the cost of coal less residuals, per 1,000 cu.ft. of gas sold, is 12.7d. These figures illustrate the serious disadvantages under which the Industry labours in competition with another industry giving similar service but exempt from taxation. We understand that New Zealand gas undertakings annually contribute hundreds of thousands of pounds in rates and taxes to the Government and municipal coffers while the electrical undertakings pay no rates and taxes. At the same time, from coal valued at £447,000 the New Zealand Gas Industry furnishes products valued at over £1,500,000. It is argued by the Ministry of Housing that electricity is cheaper than gas, but surely the basis of comparison cannot be valid. Moreover, it is strongly contended by the Gas Industry that in the majority of towns gas is in fact cheaper than electricity for domestic purposes, and that irrespective of running costs many householders, on other grounds, prefer to use gas. Where householders are unrestrained by Government edicts and where the supply authority states that it has fixed gas and electricity at equal costs for equal use, as in Perth (W.A.), pre-war gas cooker sales outnumbered electric cooker sales in the ratio of 20 to 1, and eight times more gas water heaters than electric water heaters were sold.

To these facts we have previously referred in the "JOURNAL," and they have been emphasized in a memorandum by Dr. A. S. FitzPatrick, Chief Officer of the National Gas Association of Australia, prepared at the invitation of the New Zealand Gas Industry in view of its proper concern at this ban on gas in the light not only of current but of future circumstances.

Pronouncement on Fuel Rationing

Following a question in the House yesterday as to when the President of the Board of Trade expected to receive the report of Sir William Beveridge on fuel rationing; if the report would be published, and if he had any approximate date in mind when rationing would be introduced, Mr. Hugh Dalton made a statement. "As I have already informed the House," he said, "I asked Sir William Beveridge on March 14 to report to me on the most effective and equitable methods of restricting and rationing the domestic consumption of fuel. I received his report last week. After consideration of this report, H.M. Government have decided to introduce as soon as possible a comprehensive scheme of fuel rationing. Coal, coke, gas, electricity, and paraffin will be rationed on a points system. Each house will have a ration calculated on present needs and not by reference to previous consumption. In addition, each person will have a personal ration. Coal, coke, and paraffin will be rationed as from June 1. Gas and electricity will be rationed about the same date—*i.e.*, from the last meter reading before Aug. 15. I hope that it will be possible from the operation of this scheme to reduce the domestic consumption of coal by about 10 million tons a year. I have set up a Department at the Board of Trade to administer this scheme and many questions of detail are now being worked out. Further particulars will be announced at an early date."

The fact that goods made of raw materials in short supply owing to war conditions are advertised in the "Journal" should not be taken as an indication that they are necessarily available for export.

Personal

Mr. JOSEPH SYLVESTER, Works Manager of one of the plants of Thorncliffe Coal Distillation, Ltd., near Sheffield, has retired after 52 years' service. He is succeeded by his assistant, Mr. John Bradwell.

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Mr. A. ROBIN has been appointed Chief Assistant Engineer and Manager of the Belfast Gas-Works in succession to Mr. J. L. Hyslop, who recently succeeded Mr. J. D. Smith as Engineer and Manager. Mr. Robin joined the staff of Holywood (Co. Down) Gas Company in 1919, and was assistant to the Engineer and Manager for ten years. He rose to the position of Engineer and Manager of the Undertaking, a post he held for nine years until the Company was taken over by Belfast Corporation. Since then he has been Sales Superintendent to the Belfast Undertaking.

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Mr. E. F. SMALLBONE, formerly Engineer and Manager of the Herne Bay and Broadstairs Gas Companies, has been appointed Engineer and Manager of the Folkestone Gas and Coke Company, in place of Mr. F. Dawson, whose appointment to the North Middlesex Gas Company has been announced in the "JOURNAL." Mr. A. Wells is now Engineer of the Herne Bay and Broadstairs Companies.

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Mr. C. R. TROTTER, Engineer and Manager of the Langholm Gas & Electricity Supply Company, Ltd., has been appointed Engineer and Manager of the Kennoway Gas Company, Ltd., Fife.

Obituary

J. M. Campbell

The death took place at Largs, Aryshire, on April 12, of Mr. JOHN M'KAY CAMPBELL, J.P., for 31 years Engineer and General Manager of the Isle of Thanet Gas Light & Coke Company, Margate, to which position he was appointed in 1909. He retired in 1940.

Mr. Campbell received his early training at the Barrowfield Iron Works, Glasgow, and from Glasgow he went as assistant at Luton Gas-Works. He left Luton to become Chief Engineering Assistant to the late Mr. E. Herbert Stevenson, of Westminster, and was afterwards transferred to Devonport Gas-Works as Resident Engineer, in full charge of an extensive reconstruction scheme. On the completion of this work Mr. Campbell returned to Luton, whence he went to Margate. Mr. Campbell was one of the initiators of the movement which resulted in the formation of the London and Southern District Junior Gas Association, and was President of the Southern Association of Gas Engineers and Managers in 1922.

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Mr. PERCY H. FLETCHER, aged 72, Engineer and Manager of the Evesham Gas Department, died on April 14. He had been connected with the Evesham Gas Department for 59 years, and was at the time of his death the oldest member of the Midland Association of Gas Engineers and Managers, which he joined in October, 1893.

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The death has occurred in his 75th year of Colonel WILLIAM HENRY RITSON, C.M.G., V.D., a Director of the Newcastle and Gateshead Gas Company and of the Shotley Bridge and Consett Gas Company.

Letters to the Editor

The Co-Ordination of Fuel Research

DEAR SIR,—When Dr. E. W. Smith recently addressed the Fuel Luncheon Club, he spoke in his private capacity, not as a Director-General of Gas Supply. Nevertheless, we have to bear in mind that he is the Director, and his views are likely to influence interested parties if, and when, the question of co-ordination of research on fuel comes up for discussion, whether in official or unofficial quarters. The greater part of his speech will receive general approbation, while many will welcome the directions of his remarks *re* vested interests. His advice to the Institute of Fuel is timely and to the point.

As an outsider who sees much of the game, I think that his remarks have to be considered in relation to those expressed by the Director of B.C.U.R.A. in a recent Paper on "The Future of Coke" (published in the "JOURNAL"). Mr. Bennett's main objective was that all the interests concerned in the production and use of coke should pool their resources and bring us into a leading position in all these new developments. Dr. Smith believed that the work of B.C.U.R.A. should be co-ordinated with that of the Gas Research Board, the research organizations connected with coking, and that of the iron and steel industry. It will be noted that the parent Fuel Research organization was not mentioned, but Dr. Smith wanted *all* the research work on fuel co-ordinated in one comprehensive organization with one of the country's finest administrators in control.

All will agree that this important work should be co-ordinated, and there appears to be no reason why the younger organizations should not take legitimate advantage of the facilities, equipment, knowledge, and experience already accumulated in such Departments as the Fuel Research Station, the Gas Research Laboratories at Leeds, and the various Coke Research Stations. Doubtless B.C.U.R.A. could easily make arrangements with those organizations to collaborate in any special problems arising out of their own original work.

Dr. Smith would probably agree that the Gas Research work is under able direction. The Institution of Gas Engineers selected the most able of the candidates available. He will probably also agree that a similar remark applies to the Fuel Research Board. This latter national institution, now 25 years old, has arrived at a stage of maturity. It may at times have appeared to be a bit "broody," but the "broody hen" has produced a few useful chicks, and it has acted to some extent as foster-parent to B.C.U.R.A. If my reading of the signs is correct, the trouble now is that the "chick" wants to take the "hen" under its wing! To us poultry keepers this appears to be absolutely unnatural. I predict that if allowed to materialize it would be disastrous to the "farm." This young "pullet" must first of all prove its worth as a producer. The results so far have been extremely disappointing.

It is not sufficient to be repeatedly dishing up second-hand ideas and information with machine-gun rapidity. Any journalist can do that. What we need is original thought, the investigation and practical demonstration of the soundness of new ideas, and, what is perhaps more important still, the scientific application of knowledge already available from previous researches on fuel.

Can we not take a few lessons from bitter experiences in the present war? We invented the tanks, but instead of vigorously applying the knowledge and experience we had obtained, we allowed the enemy to set the pace for us. We are informed also that dive-bombing was first demonstrated in this country. What has our neglect of the development of this art cost us in men, ships, territory, and equipment? By all means prosecute research with as much energy and skill as we can command, but in all conscience do not waste further time by ignoring the information and knowledge already at hand.

Above all, we must ruthlessly resist any attempt at putting back the clock by trying to disprove well-established laws. Dr. Smith instances the "fundamental research" on a coal-burning grate carried out by Dr. Rosin, under the auspices of B.C.U.R.A., but Rosin's work was fundamentally wrong. In his tests on the aero-dynamics of the open fire he was studying not the flow of air, but of water; he was studying hydro-mechanics. From his experiments he recommended that chimney areas should be reduced. To those who had studied Ventilation and the Laws of Friction, this proposal should have appeared to be a retrograde step. B.C.U.R.A. now knows that it was, because it has been proved by experiment. Two fireplaces were constructed in the same chamber about 10 ft. apart. One was of the type an ordinary builder would install, having a 9 in. by 9 in. chimney. The other was very similar, but provided with a 6 in. by 5 in. Rosin chimney. In 1939 I saw a small quantity of coal placed on a low fire in the ordinary grate. The smoke went up the chimney. Immediately afterwards Rosin's fire was treated in the same way, and the smoke came into the room within three minutes! That is exactly what should have been expected.

What was the cost of a research which showed us how to construct a smoky chimney? Is that the sort of research which entitles the youngest research organization to take over and control such institutions as the Fuel Research Board and the Gas Research Board? Yet it is not the only example which could be cited from first-hand knowledge. If B.C.U.R.A. invites me to, I will give details of an even more devastating effort.

That co-ordination of research is advisable I will readily grant, but it may be difficult to find the co-ordinator-in-chief who would be able to divorce himself from vested interests. In any event, any co-operative scheme such as Dr. Smith visualizes must be erected on a solid foundation. This foundation is in being at the Fuel Research Station, and there are available the "acres of research facilities" that Dr. Smith requires, with a great variety of large-scale and small-scale coal-processing equipment. What it lacks as compared with some of the younger organizations is a good publicity department!

Oakfield, The Park, Cheltenham. April 14, 1942.

Yours faithfully,
JOHN ROBERTS.

Standardization of Cooker Thermostats

DEAR SIR,—Many cooking recipes depend upon such loose phraseology as a pinch of this; a pinch of that; a large spoonful of the other; a sufficiency of this; a taste of that; then bake in a hot or moderate oven. To get away from such ill-defined terms should be our aim.

Turning to the standardization of oven thermostats on gas cookers I plead for the scrapping of all numerical and alphabetical, or other confusing marks of calibration, and the use instead of the simple straightforward thermometer scale alone. Then the post-war cook will set the oven for degrees temperature direct, and thereby absorb automatically the technics of cooking and hence would have the support of domestic science teachers. Incidentally, post-war cookery books could give oven temperatures desired for recipes. Thus all cookery books would be more universal in application.

Surely this is the simplest and truest calibration, and being educational, could the more readily and voluntarily be generally adopted.

43, Uxbridge Road, Hampton, Middx. March 31, 1942.

Yours faithfully,
H. J. TOOGOOD.

NORTH BRITISH ASSOCIATION

THE Spring Meeting of the North British Association of Gas Managers was held at Greenock on April 8—Mr. R. D. KEILLOR, Greenock, President, in the chair.

The **President** welcomed the large company present and introduced Provost **Robert Lemmon**, Greenock, who conveyed to the members the greetings and good wishes of himself and the citizens of Greenock, and who said he disagreed entirely with the practice of handing over surplus profits from the Gas Department to the relief of rates. In Greenock, he added, the personnel of the Gas and Electricity Committees were practically identical, and the union had been successful.

Mr. **R. M. Simpson**, Denny, Senior Vice-President, made reference to the loss sustained by the Association through the deaths of K. McKenzie McKay, who was Engineer and Manager of Oban Gas Company, James Bridge, Engineer, Manager, and Secretary of the Elland cum Greetland Gas Company, and Harry S. Keillor, a younger brother of the President, who was Engineer and Manager of Buckie Gas Company.

Sir **Frederick J. West,** C.B.E., said that twelve months ago he had deputized at their meeting for Mr. George Dixon. Now he appeared before them as President of The Institution of Gas Engineers. On its behalf he extended greetings and good wishes. It had decided to maintain a closer liaison with District Associations and, with that end in view, had arranged to send a précis of the proceedings of the Council meetings to all representatives of District Associations on the Council. They hoped that at some of the District Association meetings the précis might form the basis of discussion on Institution problems. If they had this from time to time it might give them a better idea of things and induce more co-operation between the Institution and District Associations.

President's Address

Thereafter the President delivered his Address (see "JOURNAL" of April 15).

Proposing a vote of thanks to Mr. Keillor, Mr. **R. M. Simpson** said that Mr. Keillor had been modest in his reference to the part he performed at the inception of the Mutual Aid Scheme in the event of air raids. It was he who first brought the matter before the Western District Commercial Section, and the views and suggestions he put forward then had formed the basis of the scheme finally adopted for the country generally.

Seconding the vote of thanks, Mr. **R. Fife,** Kilmarnock, Junior Vice-President, thanked the members for electing him to his office, and Mr. Keillor for placing before them his thoughts on probable future developments.

The **President** returned thanks and intimated that they had with them Dr. E. W. Smith, Director-General of Gas Supply, who invited questions, to which he proposed to reply.

Questions were asked regarding the reservation of employees in the Gas Industry and the supply of gas oil for water gas production, whether it was proposed to link up undertakings compulsorily, and if payment would be made for special expenditure incurred through laying mains to essential places not likely to need such gas services after the war.

Dr. Smith's Address

Dr. **E. W. Smith** then addressed the members on the work, functions and aims of the Directorate of Gas Supply, his remarks being on the general lines as reported in his previous Addresses to District Associations ("JOURNAL" of March 25 and April 8). Replies to the questions raised were also substantially as outlined in the "JOURNAL" of April 8. In regard to the taking-over of undertakings Dr. Smith emphasized that an undertaking should be assessed at its true value, and that gas, as a public service, should be at nobody's mercy.

The members thereafter inspected the Greenock Corporation Gas Showrooms, after which they were entertained by Greenock Corporation at lunch in the Lorne Restaurant, Provost Lemmon presiding.

Mr. **James Jamieson** (Edinburgh) proposed the toast of "The Corporation of Greenock." In doing so he referred to the Corporation's Gas-Works as a model of its kind. Prudently managed and ably administered, its excellent reputation and high standard of service were appreciated. To-day they had inspected the new workshops and demonstration hall, in which were displayed originality and forethought. To all who had taken part in the development of the Greenock Undertaking much credit was due. He proposed to mention only two—the late George Keillor, whose untimely death robbed them of a most competent official and took from the Industry one of its ablest administrators, and his son, the present Engineer and President of the Association, Mr. Ronald Keillor. Working on the foundations laid by his father, he had established himself as an Engineer whose views and opinions were much respected, and as an administrator his reputation was of the highest order.

Councillor **A. McLachlan,** Convener of the Greenock Gas Committee, replied.

Councillor **Alston,** Vice-Convener of the Greenock Gas Committee, proposing the toast of "The Gas Industry," said the Gas Industry was a base of many opportunities, and they in Greenock delighted to honour those present, with Greenock's Gas Engineer as President of the Association.

Responding, Sir **Frederick J. West** said that co-operation, co-ordination, more mutual help—these must come as never before in the history of their Industry. Greater unification, one body speaking with one voice for the whole Industry, greater control, standardization of practice, and the public interest in the forefront—these were some of the changes that would come. The North British Association should offer its constructive criticism to assist in making these things effective.

Mr. **James Bell** proposed the health of the President, and Mr. **Keillor,** replying, thanked the Secretary and Council for their help, and intimated that as a result of collections taken at the luncheon and at the Golf Outing the sum of £24 would be handed over to Provost Lemmon for Greenock Distress Fund.

Mr. **H. A. Aitken,** Buckhaven and Leven, proposed a vote of thanks to Provost Lemmon and Greenock Corporation for their hospitality.

The members thereafter visited the Greenock Gas-Works at Inchgreen.

MANCHESTER DISTRICT ASSOCIATION

The 72nd Annual Meeting of the Manchester District Association of Gas Engineers was held on April 10 at the Midland Hotel, Manchester, Mr. T. REYNOLDS, President, in the Chair. There was a large attendance of members.

It was unanimously resolved that letters of sympathy be sent to Colonel W. M. Carr and Mr. A. L. Jennings (Spenborough), expressing the hope that they would soon be restored to health.

A cordial welcome was extended to Mr. D. V. Lewis, Deputy Engineer and Manager, St. Helens, who was formally inducted as a member of the Association.

The HON. SECRETARY (Mr. H. Burton) stated that the balance in hand had been increased from £48 to £114, due to the non-publication of Transactions.

The Annual Report and Statement of Accounts were unanimously approved and adopted.

Mr. J. D. ASHWORTH (Blackburn) and Mr. G. E. CURRIER (Bradford) presented the reports of the Lancashire and Yorkshire Commercial Sections respectively, which were unanimously adopted.

The PRESIDENT reported that the Council of The Institution of Gas Engineers had requested the Salaries Sub-Committee of each District to submit their recommendations for an extension of scale of salaries to cover undertakings with sales up to 5,000 million cu.ft. per annum. Copies of the proposed scale had been circulated to the engineers affected, and the scale itself was read by the Hon. Secretary. The matter was referred back to the Salaries Sub-Committee for further consideration.

It was unanimously resolved that Dr. E. W. Smith be invited to address a meeting of the Association to be held in July next.

The following recommendations of the Committee were unanimously approved and adopted:

That a donation of 25 guineas be granted to the Benevolent Fund of The Institution of Gas Engineers.

That Mr. J. E. Lister Cooper (Yeadon) be appointed the Association's District Member on the Council of The Institution of Gas Engineers.

That Messrs. T. Reynolds (Stockport) and J. E. L. Cooper (Yeadon) be appointed representatives of the Association on the Councils of the Manchester and District and Yorkshire Junior Gas Associations respectively.

That Messrs. C. H. Bamber, W. Fletcher, T. Reynolds, and F. G. Shaw be appointed representatives of the Association on the Lancashire District Gas Education Committee.

That Messrs. J. Corrigan, G. E. Currier, N. Hudson, and H. Singleton be appointed representatives of the Association on the Yorkshire District Gas Education Committee.

That Messrs. L. W. Harrison and R. N. Webb be appointed representatives of the Association on the Barnsley Advisory Committee of Coke Oven and Chemical Works.

Mr. A. L. Holton (Manchester), who retired from the Lancashire District Gas Education Committee, and Mr. H. Burton (Shipley), who retired from the Yorkshire Gas Education Committee, were thanked for the work they had been doing on behalf of the Association.

Mr. J. E. Lister Cooper (Yeadon) was then formally inducted as the President of the Association. The retiring President, Mr. T. REYNOLDS (Stockport), having invested Mr. Cooper with the badge of office, said that the latter had been a member of the Association for 22 years, and was first elected to the Committee in 1928. His work on Committees was well known, perhaps more intimately for his prolonged period of service in Yorkshire, where his colleagues held him in the highest esteem and affection. For many years he was the Secretary of the Yorkshire Commercial Association, the District National Gas Council, the Federation of Gas Employers, and the Regional Council, and he was still the Secretary of the Yorkshire Tar Board. It was a fitting climax to these activities that the members had conferred upon him the highest honour they could, and it was sincerely hoped that in

spite of the difficulties brought about by the war he would have a happy and successful year of office.

The newly-installed PRESIDENT said his first duty was to express the members' appreciation of the services which Mr. T. Reynolds had rendered during the past two years. He regretted that he had not the privilege of pinning on to Mr. Reynolds' coat the badge of a Past-President, owing to the restrictions on the use of gold. However, they were fortunate in that Mrs. Samuel Glover had offered to present the badge which was given to her husband, the late Samuel Glover (St. Helens), who was President in 1912. If the necessary alterations could be made to it, in order to make it suitable for the retiring President, this would be done, and it was hoped that it would be possible to invest Mr. Reynolds with it at the next meeting of the Association.

It was unanimously resolved that a vote of thanks be accorded to Mrs. Samuel Glover for her generous gift.

The retiring President, Mr. T. REYNOLDS, reminded members that an invitation to visit Stockport was still outstanding, and also wished to tender his personal thanks to Mrs. Samuel Glover for her kindly thought in presenting the badge.

Presidential Address

The PRESIDENT then delivered his Presidential Address, an abstract of which follows.

Mr. WILLIAM FLETCHER (Liverpool) moved a vote of thanks to Mr. Cooper, and Mr. N. HUDSON (Ravensthorpe) seconded. Mr. CHARLES WOOD (Bradford), a past-President of the Association, supported the vote, which was carried unanimously.

Mr. R. WALKER (Partington) proposed a vote of thanks to the retiring officers and members of the Committee of the Association, and made particular reference to Mr. T. Reynolds for the way in which he tackled the labour problem.

Mr. T. HAWORTH (Darwen) seconded the vote.

Mr. REYNOLDS, on behalf of the retiring officers of the Association, thanked the members, and spoke with appreciation of the work done by Mr. H. Burton, the Hon. Secretary of the Association.

The HON. SECRETARY also responded to the vote, saying that the aim of the Committee and of himself was solely to advance the welfare of the Association.

MANCHESTER DISTRICT ASSOCIATION OF GAS ENGINEERS

Presidential Address*

of

J. E. LISTER COOPER, M.Inst.Gas E.,

Engineer and Manager, Yeadon and Guiseley Gas Company

[Abstract]

I feel I should be failing in my duty were I to proceed without first paying tribute to our old friend the late Mr. James Bridge, by whose lamented death this Association has sustained such a severe loss. Mr. Bridge was a man of outstanding ability which he dedicated to the high ideals by which his life was directed. He was devoted to the interests of the Gas Industry, and always upheld the dignity of the Gas Engineering profession. He was a most lovable man, incapable of any meanness, and a loyal and faithful friend. We remember with gratitude his efficient and self-sacrificing services to this Association. His work lives after him, and will be an inspiration to all of us.

It will, I think, be generally agreed that after we have won the war there will be no more important question than the determination of a Co-ordinated National Fuel Policy, and what I have to say therefore will be directed to that subject.

We often hear nowadays that in post-war years the standard of living and working conditions of the mass of the people will be raised. Some people appear to have doubts whether this will be possible, having regard to all the waste and impoverishment caused by the war. Nevertheless I believe that post-war years will witness an insistent public demand for improved conditions. These can only come about through the achievement of a higher standard of efficiency in the use of our national resources. Whatever may be our future social and industrial conditions, the Gas Industry must be prepared to meet the country's needs and play a worthy part in the improved post-war world for which we all hope.

Fuel is one of the necessities of life, and an improved standard of living will involve a great increase in the demand for the clean and convenient fuel services, not only for domestic and semi-domestic purposes, but industry also will look for improved fuel facilities for process work, space heating, works canteens, &c., all of which will not only promote better living and working conditions, but will increase efficiency and output and will help us to hold our position in the world as an industrial power. It is essential therefore that in the new national scheme of things the utilization of fuel should be a foremost consideration.

Coal Conservation

In order to bring the question of coal conservation in this country into perspective it is necessary to have regard to the distribution of coal reserves throughout the world, for it must be remembered that future generations will have to compete in the industrial markets of the world.

I am indebted to Professor Townend for the following most interesting and significant information:

Distribution of coal reserves throughout the world:

Europe	10.5%
Asia	17.3%
America	69.0%
Africa and Australia together	3.2%

National distribution of coal reserves:

U.S.A.	51.8%
Canada	16.4%
Germany	5.7%
China	3.0%
Great Britain	2.6%

From these figures emerges the most important reason why coal conservation in this country is essential to our continued prosperity as an industrial power—*viz.*, that we possess less than 3% of the world's coal reserves.

During the last quarter of a century there has been a decrease in our coal output which may be attributed to four main causes:

1. World wide economic depression following the 1914–18 War.
2. Development of coal resources elsewhere.
3. Partial displacement of coal by oil.
4. Increased fuel economy in industry.

In regard to No. 4 there has, of course, been a great improvement in the efficiency of the utilization of fuel over the last 20 years, which is evidenced by the fact that although during that period there has been a very large increase in the requirements and utilization of heat energy, for both domestic and industrial purposes, there has been no corresponding increase in the consumption of coal. As a result of many years of continuous progress, the Gas Industry has made a considerable contribution towards this improvement, and may now claim to be highly efficient. Despite this record of achievement in the past, it remains of vital importance that we should attain still higher efficiencies. In disregard of the fact that Great Britain only possesses 2 to 3% of the world's coal, it has always been used extravagantly. The drain upon these reserves is tremendous.

Fuel economy is not a question to be considered in the interests of any one industry; rather is it for each industry to make its contribution by the quality of service which it renders to the nation.

We cannot claim that gas can be used to the greatest advantage for every purpose, and should concede that electricity is most suitable for many purposes—*e.g.*, its greater flexibility for power and domestic lighting gives it a definite advantage over gas. On the other hand, gas is specially suitable for general heating purposes. The slogan "if it's heat you want, it's gas you want" is generally true, and it is uneconomical to use heat energy for purposes other than those for which its particular form is most suitable and efficient. This being so, it may be said broadly that it is in the interests of national economy to use electricity for power and domestic light, and gas for heat.

What is the outlook in the domestic field? Estimates of the total domestic consumption of potential heat (P.E.P. Report on the Gas Industry) indicate that the demand is met in the following proportions:

	Potential heat. %	Translated into heat usefully employed (average efficiencies assumed). %
Gas	7½	18½
Coke	15	18½
Anthracite	3½	4
Raw Coal	71½	52½
Oil	1½	4
Electricity	¾	2½

The domestic load of the Gas Industry represents about 70% of its total output; 5 to 10% of this load is absorbed by lighting; therefore 60/65% of the total output is represented by only 18½% of the domestic heat usefully employed. 52½% is still being provided by burning raw coal. From these figures the main conclusion to be drawn is that for the heating of rooms and water there is a tremendous field awaiting development.

* Delivered April 10.

During the ten years immediately preceding the war, the Gas Industry raised large sums in additional capital which has been spent on extensions of mains, &c., to supply additional consumers. In that period the number of consumers increased from 8¼ to 11 millions, nearly 30%, while the total sales of gas increased by only 13%. Up to date this doesn't seem to be very good business. Analysis of these sales into two broad sections shows that the aggregate increase is more than accounted for by the increase in sales for industrial purposes (the lower priced gas). On the other hand, sales for other purposes show a disturbing decrease.

This information is illuminating, and should act not only as a warning but also as a guide for the future. The decrease referred to is probably accounted for by lost lighting load, and also part of the cooking and water heating load. Further evidence of this is to be found in a decreasing average consumption per domestic consumer. Why this decrease? I venture to say it is due to our hesitancy to institute promotional tariffs. This tendency should be reversed, otherwise increases in the price of gas become inevitable, and increases in price usually result in decreased sales. Thus a kind of vicious descending spiral is set in motion.

According to information given by the Ministry of Labour and National Service, the average fuel and lighting expenditure per annum of working class families is between £16 and £17, which next to food and clothing is the largest item of family expenditure.

This is surely of sufficient consequence to justify the demand that n post war building or re-building, which is to be the first consideration of the Government's Post-War Planning Committee, the present inadequacy of the heating and cooking equipment of the ordinary dwelling house should be remedied. It is essential that houses be planned for the clean and convenient fuel services, and equipped with appliances of the most efficient and labour-saving types, as an integral part of the building. In these houses adequate means of ventilation by flues in the kitchen, living rooms, and bedrooms should be compulsory.

A very large field for domestic heating, which is now provided by the wasteful burning of raw coal, is awaiting development, and this ought to be our inducement to take the bold course.

One of the commonest domestic fuel systems to-day is the use of gas for most of the cooking, and some hot water; coal for part of the cooking in winter, warming rooms, and hot water by fire-back boiler; and electricity for special heating purposes. So long as we are content with the cooking load only, so long will the price of gas remain high. The possibility of cheaper gas comes with increased consumption per consumer, and an additional load, obtainable by capturing a large proportion of the water and space heating load, affords the opportunity. We should never be content until we have captured most of that load. The Gas Industry will thus play its part in the improvement of living conditions, and so fit in with the new social and economic order.

The Industry will not fit in with the new scheme of things by simply returning after the war to pre-war organization, policy, and methods. A "same as before" policy is in reverse gear; there is no neutral; we go forward or we go back.

Gas and Coke

Having regard to the thermal efficiencies of gas and coke, it is clear that the Industry can provide fuel systems in substitution of raw coal that are cheaper, more efficient, convenient, and clean, and by so doing make a valuable contribution to the fuel economy of the nation.

It is true that the development of the Gas Industry must be based on the supply of gaseous fuel, but a "gas and coke" policy is also necessary until such time as some process of complete gasification giving high thermal efficiency is a practical achievement, or until improved methods of carbonization having greater flexibility in the proportion of gas and coke produced are in successful operation.

I remember that a few years ago Mr. Jennings, of Spenborough, made proposals to the Yorkshire Commercial Section based upon the supply to gas consumers of the quantity of coke which resulted from the production of the gas they consumed. This system would make a valuable contribution to coal conservation, and would be cheap to the consumer. Compare the fuel requirements of identical 5 or 6-room houses:

		Coal required. Tons.	Cost to consumer. £ s. d.
1. Gas for cooking	100 therms	6.33	16 5 0
Coal for all other purposes	5 tons		
2. Gas	274 therms	3.66	13 17 6
Balance coke	1.83 tons	...	

Modern coke fires, being ignited by gas, provide a useful consumption, but the system unfortunately accepts the idea of one solid fuel fire in the house, and this acts as a deterrent to the adoption of gaseous fuel later. It is advisable, therefore, to keep the ideal "all gas" policy in mind, and have no hesitation in recommending gaseous fuel, in spite of the fear of being inconvenienced at times by surplus coke.

Street Lighting

The 20 years prior to the war witnessed a large extension of street lighting. Gas competed successfully with electricity for this purpose, and sales to public lighting authorities more than doubled in that period. It is more than likely that after the war further extensions and improvements will be required and competition will become increasingly difficult. I regard this load as a most desirable one, not merely from a profit-making point of view, but for the prestige which is associated with it and having regard to the hours during which the load is carried. We should make sure that we are ready to put our lighting schemes into operation without delay immediately on the cessation of hostilities. Useful contacts can be made or maintained in the meantime. There is also the possibility that this question may be one for consideration in connexion with any scheme of co-ordination with the electricity industry.

Post-war development will probably bring about considerable movement in the location of Industry, and no undertaking, however non-industrial the area of that undertaking may be, should be regarded as outside the scope of industrial gas development. On these grounds may I make an appeal for 100% support of the Centres?

Coal Supplies

Co-operation with the coal industry would be mutually and nationally advantageous. Unfortunately at present that industry appears to regard the Gas Industry not as a customer but as a competitor. It is true that in achieving one of its objects the Gas Industry would make inroads into the most remunerative market for coal—*viz.*, the domestic market. The real position is that in any case the burning of raw coal in the domestic grate must eventually cease in the interests of a pure atmosphere and public health. The fact also appears to be overlooked that for the coal industry the change only involves a change of customer. The coal would still go to the domestic grate as a clean fuel, *via* the gas-works or coke ovens. The Gas Industry would become more and more desirable as a customer both from the point of view of convenience in the marketing of the coal, and possibly in the price we are able to pay. A reasonable and equitable price policy should, of course, be arrived at by agreement, having regard to the cost of production.

It is essential that co-operation should promote more amicable relations between the two industries, and that the attitude of the coal industry, which under the operation of the Coal Selling Schemes has assumed a totalitarian attitude which is out of harmony with British feeling and traditions, should undergo a radical change. We cannot continue to accept the unilateral principle either in the fixation of prices or in conditions of contract. We must also have freedom in the choice of the coal we require and in the source of supply. Otherwise the coal industry would be in a position to exert indirect influence upon gas prices and also upon the market for gas coke, the quality of coke being dependent upon the quality of coal from which it is produced.

Co-ordination of the Clean Fuel Services

The Coking Industry

The special function of the coking industry is to provide coke for the iron and steel industries. Unfortunately in the past this has proved a fluctuating demand, and surplus coke has overflowed into the market created for gas coke. We therefore welcome the formation of Regional and National Coke Associations to rationalize and co-ordinate the marketing of oven coke and gas coke.

It should be borne in mind that except so far as the position is affected by gas purchased from the coke ovens, the Gas Industry, in the process of making gas, must make coke for which it must retain a market. One of the balancing factors is the purchase of coke oven gas by the Gas Industry, whose distribution systems provide the only means whereby that gas can be distributed.

Large quantities of coke oven gas are purchased by the Gas Industry—which is as it should be, provided that, in the determination of price, due consideration is given to the obligations of the gas undertaking for maintaining the supply to the consumer and the maintenance of standby plant.

The Electricity Industry

With regard to the respective functions of the gas and electricity industries, I cannot do better than quote Sir David Milne-Watson, who as long ago as 1937 spoke of the "economic relationship" between the two industries. This is what he said:

> "Setting aside, so far as that is humanly possible, one's own sectional bias, I see the proper fields of electrical expansion in Britain as being the huge fields of industrial power, railway transport, and rural development, and in the urban domestic field, lighting in general, and household power in all forms. For gas and coke, the obvious and natural field is that of household heating, in its three phases of cooking food, warming rooms, and heating water, and industrial heat in the provision of an exactly controllable fuel for factory furnace work of almost all kinds."

This pronouncement is of particular interest, being a somewhat detailed expression of the principle which would apply each form of energy to the purpose for which it is best suited. In order to carry out this idea, some method of allocating the business of each form of energy would be necessary. This involves a vital question of principle which would have to be faced by any ordered system of fuel regulation. "Natural spheres" would necessarily be determined on the basis of national interests. When these are in conflict with individual interests,

which is to prevail? Those charged with the responsibility for guarding national interests should legislate for centuries. Individual interests may not command foresight beyond the next few balance-sheets. National interests, being concerned with efficiency in the utilization of the national resources of the country, are paramount; it would appear therefore that only the State could settle the issue, and no matter how well disposed a Government may be in seeking to serve the best interests of the country, the determination of "natural spheres" is a very difficult problem to solve.

Electricity will extend its operations outside its "natural sphere" so long as it possesses the inequitable privilege of charging high prices for lighting and power, and of utilizing the surplus revenue to buy heating business otherwise not procurable on an economic basis. The consumer must be "free to choose." To use a simile, he is not "free" in his purchase of potatoes if he is told that he may have them at the price only on condition that he also buys apples at a preposterous price. It is futile to talk about co-ordination of fuel services unless such an inequitable system is rectified.

Co-ordination is, of course, not meant to eliminate competition, but it should promote equity, which of itself would help to establish "natural spheres" on the basis of national fuel economy, without further State intervention. The Gas Industry has always been stimulated by competition, and, given fair and equitable conditions, will welcome it in future.

The Future

One of the most important considerations in national re-organization after the war will be the formulation by the Government of a National Fuel Policy. This policy involves co-ordination of the functions of the great fuel industries on a national basis, and also the necessity of those industries being co-ordinated internally. Throughout the whole Industry, it is essential there should be unity of purpose and policy in all its branches, with a readiness to fulfil the needs of such a vital public service. It is preferable that this unity should be formulated and accomplished by personnel appointed by the Industry itself, through its existing organizations, rather than have to accept schemes devised by some other authority less competent to do so.

The main difficulties in creating a system of complete co-ordination are (1) the large number of units comprising the Industry, and because these are composed of both company and municipally owned undertakings, which often have different outlooks; (2) the lack of co-ordination between undertakings in technical and commercial policy.

These difficulties may be overcome to some extent through the work of such regional organizations as Industrial Gas Development Centres, Co-operative Tar Schemes, Coke Marketing Associations, and in respect of labour questions, of Joint Industrial Councils; but such organizations alone cannot promote the comprehensive co-ordination within the Industry which is necessary.

Such a measure of co-ordination may be accomplished on a regional basis, by the financial grouping of undertakings, which has been so successful through the operation of holding company groups, each group covering a defined area having regard to the potential gas requirements within that area, and being administered as one unit. Development on these lines affords potential possibilities of the greatest importance in the direction of co-ordinated planning in the areas concerned, and would obviously facilitate national co-ordination.

Regional groups would co-ordinate policies within the group, which, in turn, could be co-ordinated nationally by a national authority.

Here let me say that I am not apprehensive of authority, provided it is truly representative, and that there are adequate safeguards, such as a simple right of appeal by undertakings. Assuming this to be the case, I should be inclined to consider sympathetically the suggestion of a national authority contained in the P.E.P. Report.

A national gas authority such as I envisage would, of course, be formed within the Industry, but I am not going to attempt to suggest its exact constitution; neither shall I try to enumerate the many functions such an authority would be able to perform for the development of the Industry.

The formation of a Ministry of Fuel and Power has been mooted as a possibility. I shall not attempt to discuss this suggestion, except to say that it seems to be quite in harmony with the formulation of a national fuel policy, and to observe that the necessity of a thoroughly self co-ordinated Gas Industry would become a matter of the greatest urgency. If the purpose of this Ministry were to unify control over all the fuel industries, instead of those industries being controlled by separate un-co-ordinated Government Departments, much might be said in its favour.

I conclude with the well-known paragraph from the 1919 Report of the Fuel Research Board. It is for us to see, as far as it lies in our power, that the concluding lines are carried into effect:

> "The sheet anchor of the Gas Industry in the future must necessarily be its possession of the cheapest known means of distributing potential heat energy in a convenient form. For lighting and power production, the electricity supply industry of the future may seriously contest the field with the producers of gas; *but for the supply of heat, gaseous fuel ought to remain supreme if its production and use are developed on sound lines.*"

National Gas Council

A Meeting of the Central Executive Board of the National Gas Council was held at Gas Industry House on April 14, 1942. Sir David Milne-Watson, Bart., LL.D., D.L., presided.

A report was submitted with regard to the coal situation, and the third report of the Select Committee on National Expenditure was considered in connexion with the small increase in production at the pits, and absenteeism. It was decided that the views of the Board should be put forward in the proper quarter. The specific case of a gas undertaking which had been penalized on account of having to use substitute coal was reported and referred to the Coal Committee of the Conjoint Conference.

A report was submitted with regard to the price of tar. It was stated that the Coal Tar Controller desired to meet representatives of the Council's Tar Advisory Committee at an early date.

A report was submitted with regard to negotiations which had been taking place with the Government in connexion with rationing of gas, and it was reported that a Memorandum had been prepared by the Post-War Planning Committee with regard to the position of the Gas Industry, and that this was being forwarded to the Secretary of Lord Justice Scott's Committee.

Letters from the Board of Trade with regard to the functioning of the Gas Industry during wartime were reported and considered.

Red Lead Paints

B.S. Specification No. 1011 for Red Lead Ready Mixed Paints, which has recently been published by the British Standards Institution, was prepared at the request of the manufacturers, and forms an addition to the series of British Standards which are at present in existence for paints and paint materials. The specification has been prepared on the basis of peacetime requirements, but an amendment slip is included which indicates the relaxations that are permitted owing to the present scarcity of raw materials. The specification provides for two types of paint, and Appendices are included giving information with regard to the various methods of testing required.

Copies of this new British Standard may be obtained from the British Standards Institution, 28, Victoria Street, Westminster, S.W. 1, price 2s. 3d. post free.

Restricted Gas Supply

The Sligo Lighting and Electric Power Company have given notice that owing to limited stocks of fuel at present, and the difficulty in obtaining further supplies, the pressure of gas will be considerably reduced at intervals during each day, and a normal supply will be available during the following hours only: 7 a.m. to 9.30 a.m., 12 noon to 2.30 p.m., and 5 p.m. to 11 p.m. The restriction, which came into force on April 10, will be modified if and when circumstances permit. Consumers are warned that during the hours of restricted supply all gas taps should be turned off to avoid danger to person and property arising from escape of gas.

The Gas Committee of the Nottingham City Council is again expected to contribute £31,500 from trading profits in relief of rates during the ensuing year, the annual city budget reveals.

Cox & Danks Ltd. are to add to their well-known scrap service by opening shortly a new branch at Harlequin Avenue, Brentford, Middlesex. Facilities will be available for dealing with all grades of iron and steel scrap. For the convenience of present and prospective dealers and works undertakings the telephone number is Ealing 6741.

At the Royal Society of Arts on April 29 the tenth in the series of lectures on "The Post-War Home—Its Interior and Equipment" will be given by Mr. R. FITZMAURICE at 1.45 p.m.

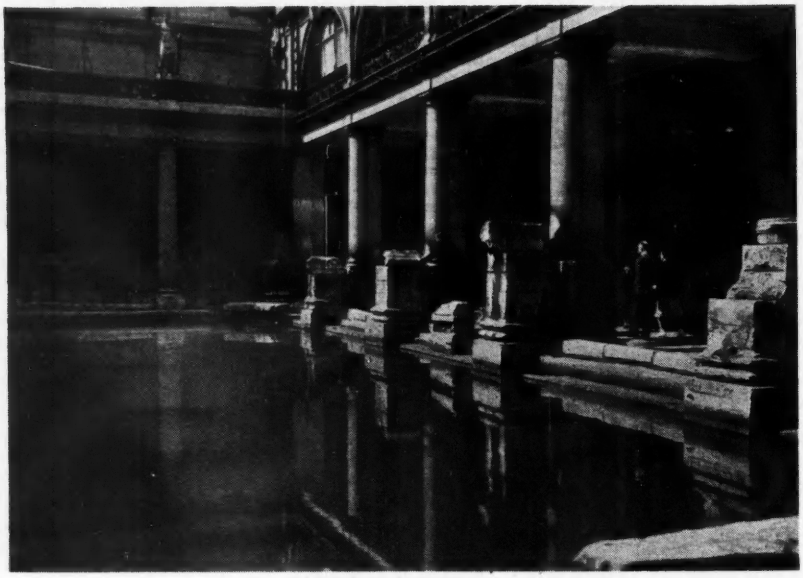
The Directors of the Tunbridge Wells Gas Company propose the transfer of £1,600 to the Reserve Fund and the declaration of dividends at the following rates, less income-tax, in respect of the half-year ended Dec. 31, 1941: £7 8s. % per annum on the sliding scale stock, and £5% per annum on the maximum stock, making, with the dividends already paid in respect of the June half-year, £7 4s. %, less tax, on the sliding scale stock, and £5%, less tax, on the maximum stock for the year 1941.

The Directors of the Oriental Gas Company have declared an interim dividend of 3½%, less income tax, on account of the year ending on June 30 next. It will be payable on May 30 to proprietors on the Register on April 27.

Middlesbrough Corporation Gas Department co-operated with the Parks Curator in a recent "Dig for Victory" week, by the loan of a window at the Gas Showrooms. This was most attractively set out with a display of produce grown in the local parks, which created considerable interest—particularly a large pile of onions which occupied the centre of the display.

A Meeting of the Institute of Fuel, to which friends are invited, will be held at the Connaught Rooms, Great Queen Street, W.C. 2, on Thursday, April 30, at 2.30 p.m., when Dr. S. G. Ward, Ph.D., and Mr. W. J. Morison, M.I.A.E., will present a Paper entitled: "Practical Application of Gas Producers to Road Transport including Passenger Service Vehicles." The Paper will be followed by a discussion. The meeting will be preceded by an informal luncheon, price 6s. 6d. per head, to which friends of members are invited, at 12.45 for 1.15 p.m.

Patriotism is a blind, irrational impulse unless founded on a knowledge of the blessings we are called upon to secure and the privileges we propose to defend. (*Robert Hall*)



The Roman Baths, Bath

Photo: Valentine

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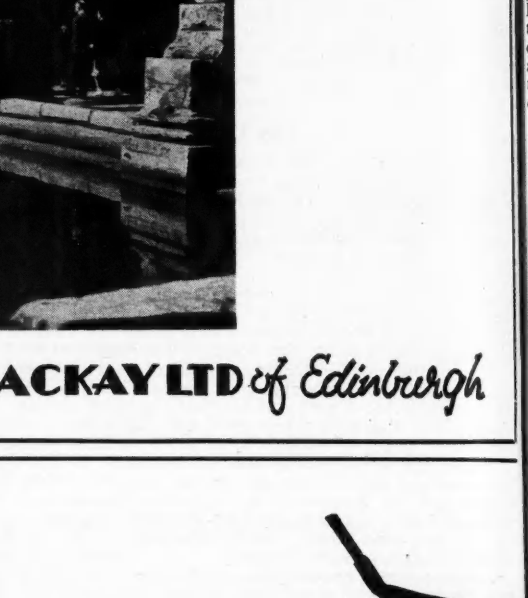

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VITAL MATTER FOR NEW ZEALAND GAS INDUSTRY

By JOHN HUNGERFORD

UNDOUBTEDLY the most vital matter affecting the future welfare of our Industry to-day is the decision of the Government against installation of gas in State houses. We can in no circumstances submit to this injustice to our Industry without making every effort to have it removed.

Gas being essentially a domestic fuel, the natural field for development largely depends upon participation in new business due to the expansion of housing in our supply area. Normally, when the choice rested with the householder, gas was a favoured fuel. Admittedly there are other outlets for gas, but these are being intensively exploited by practically every gas undertaking, and eventually this type of business must reach saturation point.

Since the State embarked upon its Housing Scheme, private enterprise in house-building has practically ceased to function. Though I feel that this injustice to our Industry will be removed, still this temporary setback to progress will have a lasting effect. In many cases Government houses are being erected in more or less undeveloped areas, and at some future date the gas reticulation must pass through these areas to supply prospective customers further afield. This will entail non-productive reticulation.

Any interference with development is serious in these times of rising costs, taxation, materials, and labour, as the natural counter to increased costs is increased sales. I would like at this stage to make passing reference to taxation as it affects the Gas Industry in competition with electricity. Comparative costs have been advanced by the State Housing Authorities as an argument detrimental to gas. Without discussing this aspect meantime beyond emphasizing that costs are largely influenced by the type of service demanded, and in this matter the Housing Authority was the determining party, I would point out that taxation costs are 12.3d. per 1,000 cu.ft. sold, while the cost of coal less residuals, per 1,000 cu.ft. of gas sold is 12.7d. These are Wellington figures, and are submitted to illustrate the serious disadvantages under which our Industry labours, in competition with another industry giving similar service and exempt from taxation.

The Gas Industry in New Zealand was founded by private enterprise, and the Government of the day granted certain rights to individual companies to supply gas in certain specified areas. It may reasonably be assumed that such restrictions on the supply of gas as operate to-day were never anticipated during the currency of such charters, otherwise it is hardly conceivable that such options would ever have been exercised. It may therefore be logically contended that the spirit, if not the intent, of the charters has been broken.

All we ask is that our Industry be allowed to carry on as it has survived and prospered through the years—on merit and service.

Coal

The matter of coal supplies, so essential to our Industry, has been the cause of concern to many of us for some years past. Based upon many years' experience of the coal supply in New Zealand I view the future with considerable anxiety. Quite apart from the influence of present day abnormal conditions, the future prospects of the coal industry in meeting industrial requirements is not at all reassuring. In fact, I would go so far, for purely economic reasons, as to advocate conservation rather than exploitation of our coal resources.

Briefly reviewing the situation over the past thirty years, the following position is disclosed. There has been no increase in the tonnage of bituminous coal mined. The combined tonnage of brown and lignite coals mined has increased from 701,653 tons in 1910 to 1,371,542 tons in 1940. The total tonnage of coal mined in 1940 was 2,516,099 tons, of which less than half, or 1,144,556 tons, was bituminous coal.

New Zealand has imported coal probably prior even to 1878, the first recorded date, in which year the imports, 174,148 tons, exceeded production figures, 162,218 tons. In 1940, 64,860 tons of coal were imported. This is the lowest figure for coal imports ever recorded, and is less than the exports of 81,287 tons for that year.

The above figures were taken from the Mines Statement, 1940.

Generally speaking, although all New Zealand bituminous coals are quite suitable for steam raising and general use, there are, unfortunately, comparatively few of the mines that produce a good gas coal. This being generally recognized, it would appear advisable that we approach the Coal Controller to have the coals classified so that our supplies could be drawn from specified sources and reserved to help meet the requirements of the Gas Industry.

May I suggest a solution: Increase imports and, if necessary, reduce production to a point that will ensure stabilizing the coal industry. I am not conscious of any bias. I entertain the same opinion as other engineers as to the value of Newcastle coals for carbonizing purposes. I have carbonized 100% of New Zealand coals in continuous verticals when on rare occasions I have had suitably blended coals,

The position of the large consumer in obtaining adequate supplies of suitable New Zealand coals is too difficult—too uncertain. In the year 1940 the Wellington Gas Company carbonized 49,000 tons of coal and received only 33,000 tons (13,700 New Zealand and 19,300 Australian). In the first six months of that year we lost in stock about 18,000 tons. Had we carbonized 100% New Zealand coal in 1940, we would have used 53,000 tons. That extra 40,000 tons of New Zealand coal was not available.

Following these suggestions I would propose that in conference with interested parties a classification of suitable coals be made under such headings as railways, general steam, &c., household, and gas; that the twelve-monthly requirements of each section be ascertained; that available supplies be confined to their classification and used for purposes for which they are most suited; that importation be provided for to meet shortage in any particular classification. The importation of Newcastle coal is not alluring as to cost, but I honestly believe it to be a dire necessity.

May I summarize my remarks on the New Zealand coal situation by saying in all earnestness: Coal is good stock; it will not depreciate in value in the earth; it is stored under ideal conditions—in the earth.

I do not wish my remarks to be taken otherwise than as constructive and friendly criticism. I am only too well aware of the difficulties confronting responsible authorities and the worries attending their good efforts. They are entitled to the whole-hearted support and co-operation of the Institute, and that co-operation I can assure them is most freely offered.

* From the Author's Presidential Address to the New Zealand Gas Institute, November, 1941.

Removal of H_2S

In Patent No. 543,099 (application date, Aug. 7, 1940), R. Quarendon R. Forty, and Imperial Chemical Industries, Ltd., explain that mixtures containing ferric oxide or even spent oxide, in which sulphur bacteria are present, absorb hydrogen sulphide from water gas, coke oven gas, and town gas, to a greater degree than would be expected from the individual absorbing capacities of the ferric oxide, spent oxide, and the sulphur bacteria, provided that in the case of water gas it contains at least 0.03% of ammonia, and in the case of coke oven gas and town gas they contain at least 0.05% of ammonia. These minimum concentrations of ammonia are higher than those hitherto used for the purpose of controlling the acidity of the purification mass.

The patent claims a process on these lines, and it is stated that, as in previous practice, the oxygen content of the gases from which the hydrogen sulphide is to be removed should be maintained at least twice that stoichiometrically equivalent to the hydrogen sulphide to be removed. Hydrogen sulphide removal can be carried out with the mixtures at temperatures as low as 5°C., but higher temperatures—*e.g.*, 25–35°C..—are generally to be preferred. The purification mass may conveniently consist of a mixture of peat with ferric oxide or of peat with spent or partly spent oxide. When using a mixture of peat and spent oxide it is possible to raise the sulphur content of the mixture above 60% by weight before it need be replaced.

Supports for sulphur bacteria other than peat may be used—for example, inert material such as ashes from water gas generators, granulated slag, coke, broken brick, pumice, which have been inoculated with cultures of sulphur bacteria, may be used.

The Cement Gun

The *Broomwade News Bulletin* for April describes how "Broomwade" portable air compressors are employed in the "Cement Gun" process for shooting sand and cement mixture into position under compressed air pressure of 30–50 lb. per sq. in. The system, widely used in the Gas Industry for lining new structures and repairing old and damaged concrete and brickwork, has the advantage of ensuring that all crevices are efficiently filled up with consolidated material and that the "Gunite" mixture attains a maximum bond to the surface on to which it is shot. The air compressor employed must deliver 200–250 cu.ft. of free air per minute at, say, 80 lb. per sq. in. pressure, the cement gun itself being designed to withstand this pressure. A typical plant illustrated in the *Bulletin* is operated by a "Broomwade" Type SVD3, 250 cu.ft. sleeve valve air compressor, running at 1,000 r.p.m., and powered by a Gardner diesel engine.

Drakes Ltd.

The Directors of Drakes, Ltd., Halifax, report a net profit for 1941 of £7,450, compared with £10,053 for the previous year. From the total credit balance of £23,457 a sum of £2,500 has been placed to special depreciation account and £7,200 has been absorbed by payment of dividend on 6% cumulative preference shares for the three years ended Dec. 31, 1941, leaving a carry-forward of £13,757, which is £2,250 less than the amount brought in. The report refers regretfully to the death during the year of Mr. Henry Smith, who had been Chairman since 1936. Mr. E. H. Payton has joined the Board at the invitation of the Directors and has been appointed Chairman.

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Gas Products Prices

The London Market April 20.

There is very little movement in the prices of Coal Tar Products, as many of the usual markets are no longer available and pitch/creosote mixture as a fuel oil has taken their place.

Pitch is still a nominal market, but for such quantities as are being sold the price ranges between about 45s. and 50s. per ton. Creosote is about 5d. to 6d. per gallon. With regard to refined tar the price for next season has not yet been definitely fixed and it is expected that this will come under a Direction to be issued by the Coal Tar Controller. Pure toluole remains 2s. 5d. per gallon under the Ministry of Supply Toluene No. 2 Order. Pure benzole is about 1s. 10d., 95/160 solvent naphtha is 1s. 5d. to 2s. 9d. and 90/160 pyridine remains about 13s. 6d. per gallon. All the above prices are *ex* Makers' Works. Naphthalene prices are unchanged and are in accordance with the Control of Tar Order 1941. The Order refers to maximum prices, and the figure for refined crystal naphthalene in 2-cwt. bags and 4-ton lots is £23 per ton delivered.

The Provinces April 20.

The average prices of gas-works products during the week were: Pitch and Crude Tar,* Toluole, naked, North, 1s. 10d. (controlled by the Control of Toluene No. 2 Order, July 5, which fixes the maximum price at which this material may be sold). Coal tar, crude naphtha, in bulk, North, 11d. to 1s. Solvent naphtha, naked, North, 1s. 9d. to 1s. 10d. Heavy naphtha, North, 1s. 9d. to 1s. 10d. Creosote, *ex* works, in bulk, North, liquid and salty, 4½d. to 4¾d.; Scotland, 4½d. to 4¾d.; low gravity, 4½d. to 4¾d. Fuel Grade, 4d. to 4¼d. Carbolic acid, 60's, 3s. 7½d. to 3s. 9d. Naphthalene, £15 to £20. Salts, drained, £6 to £6 10s.; whizzed 72°, £7 15s.; 78°, £9 5s. Anthracene prices fixed by Controller. Heavy oil: Unfiltered anthracene oil (min. gr. 1,080), 6d. to 6¼d.; filtered heavy oil (min. gr. 1,080), 6½d. to 7d.; heavy anthracene oil gr. less than 1,080, 5¾d. to 6d.

*In regard to pitch and crude tar prices we would ask readers to refer to the editorial note on p. 396 of the "JOURNAL" for Sept. 10, 1941.

Tar Products in Scotland April 18.

Market continues active. Refined tar 5d. to 5¼d. home and 5d. to 5¼d. per gallon export. Creosote oil: Specification oil, 6¼d. to 6½d.; low gravity, 7d. to 7½d.; neutral oil, 6¼d. to 6¾d. per gallon; all *ex* Works in bulk. Cresylic acid remains difficult with prices firm. Pale 99/100%, 5s. to 5s. 6d.; Pale 97/99%, 4s. 6d. to 5s.; Dark 97/99%, 4s. 3d. to 4s. 6d. per gallon; all *ex* Works in buyers' packages. Crude naphtha: 6½d. to 7d. Solvent naphtha: 90/160 grade 2s. to 2s. 3d. and 90/190 Heavy Naphtha 1s. 9d. to 2s. per gallon. Pyridines: 90/160 grade 13s. and 90/140 grade 15s. per gallon.

Gas Stocks and Shares

Compared with the idleness prevalent in most sections of the Stock Exchange last week, the Gas Market made a good showing and the business was well spread. More ordinary stock was available, especially that of Gas Light units and Tottenham, and several parcels of Imperial Continental stock changed hands at 50. A demand for Croydon 5% debenture led to a sharp rise of 8 points and the same applies to Uxbridge 5% debenture, which closed 6 points higher in the Supplementary List.

The Directors of the South Western Gas and Water Corporation are recommending a final dividend of 3% on the ordinary stock for the year ended 31st December last, again making 5% for the year, the rate paid each year since the Corporation was registered.

The following changes in price were recorded during the week:

OFFICIAL LIST		
Croydon 5 p.c. Deb.	107—112	+8
Gas Light 3 p.c. Deb.	82—85	+2
South-Eastern Gas Corporation, Ltd.	14/—16/-	+-/6d.
Wandsworth Ord.	78—83	+1
Ditto 4 p.c. Pref.	73—78	+1
SUPPLEMENTARY LIST		
Eastbourne "B"	37—42	+2
Uxbridge 5 p.c. Deb.	103—108	+6
PROVINCIAL EXCHANGES		
Glossop	18—19	+1¼
Ditto New Shares	13¾—14¼	+⅜
Sheffield Cons.	124—126	+1

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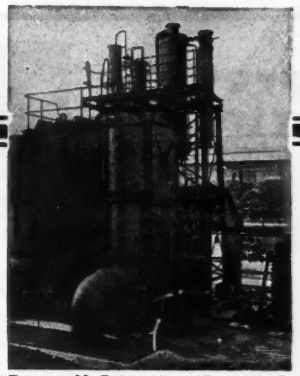
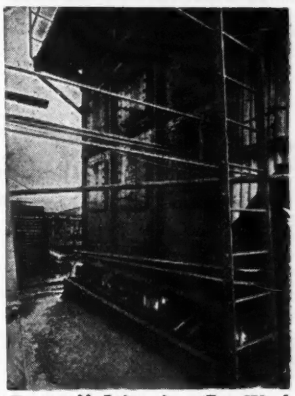


"Permac" Joints in a Gas Works.



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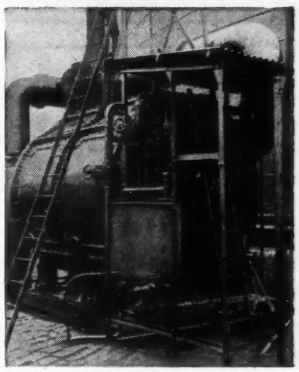

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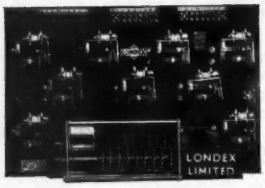

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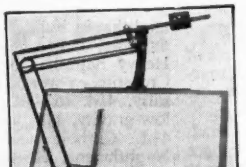

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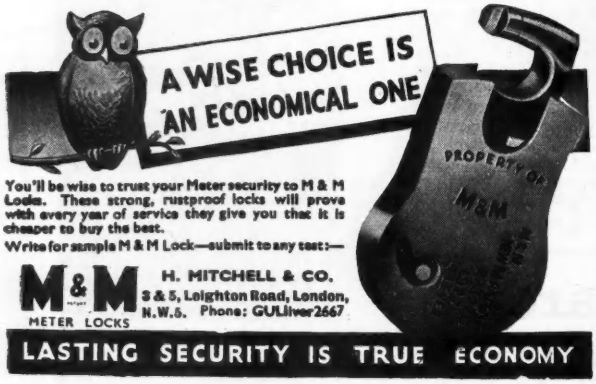

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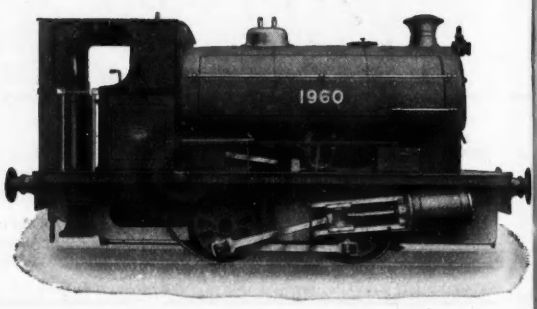

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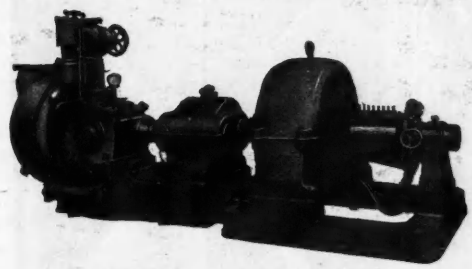

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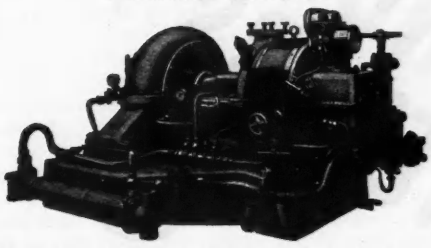

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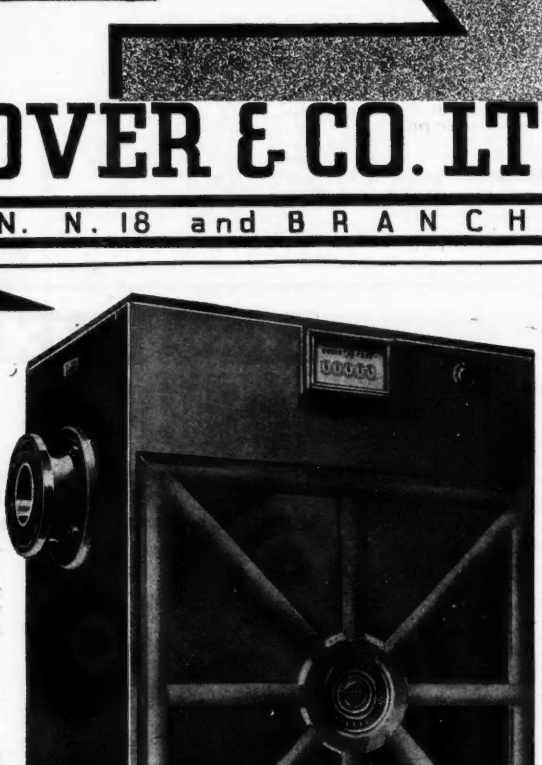

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